R20 Regulation *Subject code: 3E5DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Supplementary Examinations, June/July 2023

INTRODUCTION TO EMBEDDED SYSTEMS

(Electronics and Communication Engineering)

Maximum Marks: 70 Date:06.07.2023 Duration: 3 hours

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 What are the characteristics of the embedded system?

2 What is meant by the basic tradeoff with respect to the processor technology and IC technology?

3 Why a general-purpose processor could cost less than a single-purpose processor?

4 What are the benefits of choosing a single-purpose processor?

5 List the features of the microcontroller.

6 Give the factors to be considered in selecting a microprocessor.

7 What is the difference between Models and languages?

8 What is FSMD?

9 List the main advantage of Anti-lock Braking System (ABS).

10 Mention the strategies followed to design an Autonomous Robotic System.

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 Explain the three types of IC technologies. [10]

OR

12 How to select the processor based on its architecture and applications? [10]

13 Discuss the different types of Sequential logic design with examples. [10]

OR

14 Explain in detail the RT-level custom single-purpose processor design. [10]

15 What are the operations performed by the control unit in the embedded system? Explain with a suitable diagram. [10]

OR

16 Discuss the Application Specific Instruction-Set Processors (ASIPs). [10]

17 What are the common computational models in embedded systems? Explain. [10]

OR

18 Explain the HCFSM model in an elevator control system. [10]

19 List out the fundamental blocks of a mobile phone and explain the function of each block. [10]

OR

20 Explain the architecture of Radio Frequency Identification. [10]